

K2 Microlensing Campaign Photometry and Light Curve Analysis

David Bennett

University of Notre Dame

We propose to provide ground-based photometry of the microlensing events followed by the K2 Microlensing Campaign from the MOA Collaboration and from the new Greenhill telescope in Tasmania. We also propose to develop photometry pipelines to measure the light curves of microlensing events observed in the K2 microlensing campaign (campaign 9). We propose to do the light curve analysis for these events using both the K2 and ground-based data, and we propose to provide modest hardware and travel support for the MOA ground-based microlensing survey. The K2 microlensing campaign will observe much more crowded fields and much fainter target stars than any other Kepler or K2 observing program, so software developed for these other programs will not be very effective for analyzing the K2 microlensing campaign data. We propose to bring two foreign photometry experts to the US to work on the K2 microlensing campaign photometry. We also propose to do light curve analysis in conjunction with the photometry pipelines.